

# Occurrence of *Sebastes mentella* (Scorpaeniformes: Sebastidae) off the Galician coast (NW Spain) (North-eastern Atlantic)

by

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**RÉSUMÉ.** - Signalement de *Sebastes mentella* au large de la côte galicienne (nord de l'Espagne) (Atlantique Nord-Est).

La capture d'un spécimen mâle mature de *Sebastes mentella* au large des côtes galiciennes (nord de l'Espagne) est décrite. Ce signalement constitue l'observation la plus méridionale de cette espèce dans l'Atlantique nord-est. Sa présence pourrait être un cas d'errance depuis la mer d'Irminger en relation avec les migrations de reproduction de cette espèce.

**Key words.** - Sebastidae - *Sebastes mentella* - Galician coast - North-eastern Atlantic - Vagrancy - New record.

The order Scorpaeniformes comprises around 26 families, 279 genera and about 1,477 species. The Sebastidae included 4 genera and 128 species, *Sebastes* being the most species-rich genus, widely distributed, and composed by 111 species, mostly inhabiting the North Pacific (Froese and Pauly, 2012). Historically, *Sebastes* structure has been poorly understood, partly because of the strong resemblance among the species and also, the genus presents taxonomic problems at every level that remain largely unresolved (Kendall, 2000). However, an increasing number of recent studies using molecular and morphological techniques have clarified much of the taxonomic confusion (Hyde and Vetter, 2007). In the North Atlantic, the identification of the *Sebastes* species has been controversial due to overlapping of meristic and morphological characters and, recently, the use of microsatellites has proven to be a powerful tool to discriminate *Sebastes* species in this area (Pampoulie and Danfölsdóttir, 2008). Thus, in the north Atlantic the genus is nowadays represented by four native species: *S. norvegicus* (Ascanius, 1772), *S. viviparus* Krøyer, 1845, *S. mentella* Travin, 1951 and *S. fasciatus* Storer, 1856 (Froese and Pauly, 2012). Recently, the non-indigenous Pacific species *Sebastes schlegelii* (Hilgendorf, 1880) has been reported from Dutch coastal waters (Kai and Soes, 2009).

On 1<sup>st</sup> October 2009, one mature male of *Sebastes mentella* (Fig. 1) was caught at 684 m depth, off the Galician coast (44°06'N; 8°56'W) (Fig. 2) by bottom trawl during the research survey "Demersales 09", carried out on board the R/V *Cornide de Saavedra*. Considering that the four North Atlantic species are difficult to distinguish at a glance since morphological differences are subtle, its identification was confirmed using the gas-bladder musculature. In the North Atlantic, the suitability of this character for *Sebastes* species identification has been validated (Ni, 1981). Also, morphometric and meristic characters were recorded. The individual was preserved and included in the fish collection of the Instituto Español de Oceanografía in Santander (IEOST09028).

The individual showed the main distinctive morphological characters of the species: head large and scaly; lachrymal bone



Figure 1. - *Sebastes mentella* (445 mm TL) caught off Galician waters.

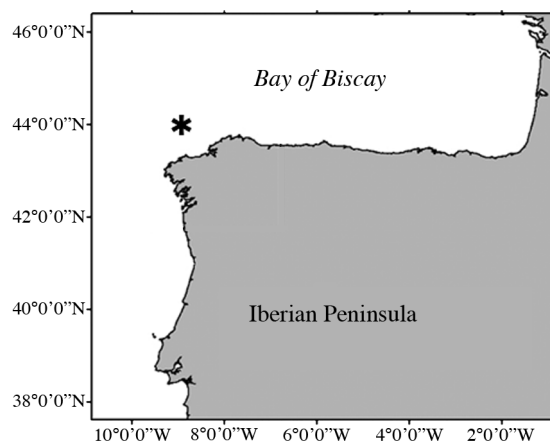


Figure 2. - Map showing the area where the specimen was captured.

presents 2 spinous points over the maxilla; sub-orbital ridge weakly marked, without spine; supplemental preopercular spine absent; the upper post-temporal spine is present and the lower one is absent; other spines present: nasal, pre-, supra- and post-ocular and parietal, supracleithral and opercular (2 spines per opercular); symphyseal knob well developed and sharp. No flap or tab or tentacle on head and body. Lateral line present with scales ctenoid; 65 oblique scale rows. Angle of the 5<sup>th</sup> preopercular spine, in relation with the longitudinal axis of the body, is 122° and downwards, and the angle of the 3<sup>rd</sup> preopercular spine is 63°. The fresh coloration of the individual was bright red with two soft blackish blotches, one near the caudal peduncle and the other on the opercle. The specimen also presented a single, thin and short muscle that passed between the 2<sup>nd</sup> and 3<sup>rd</sup> ribs, and ending in a single tendon attached to the 7<sup>th</sup> vertebra, confirming, thus, its identification as *S. mentella* (Ni, 1981). Morphometric and meristic data from the specimen are given in table I. All counts and measurements from the specimen of *Sebastes mentella* described herein are in agreement with the size,

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Table I. - Morphometric and meristic data of the specimen of *Sebastes mentella* caught in Galician waters (NW Spain).

<i>Sebastes mentella</i> (IEOST09028)		
Morphometric data	L (mm)	% SL
Total length (TL)	445	–
Standard length (SL)	377	100.0
Head length	167	44.3
Pre-orbital length	59	15.6
Post-orbital length	62	16.4
Horizontal eye diameter	46	12.2
Vertical eye diameter	43	11.4
Inter-orbital length	25	6.6
Pre-dorsal fin length	139	36.9
Dorsal fin base length	180	47.7
Anal fin base length	44	11.7
Pectoral length	92	24.4
Ventral length	67	17.8
Preanal length	259	68.7
Maxilla length	72	19.1
Body high	126	33.4
Body width	49	12.1
Symphyseal knob length	6	1.6
Caudal peduncle height	25	6.6
Caudal peduncle length	41	10.9
Meristic data		
Dorsal fin rays	XVI, 15	
Anal fin rays	III, 9	
Pectoral fin rays	19	
Pelvic fin rays	I, 5	
Branchiostegal rays	7	
Gill rakers	10+22	
Pored lateral line scales	35	
Oblique scale rows	65	
Weight (g)	991	

body proportions and radial formulae reported for the species by other authors (Ni, 1984; Barsukov *et al.*, 1992).

This species occurs in cold waters, from 300 to 1,441 m depth, showing a distribution amphi-atlantic boreal. In the western Atlantic, it is present in the Baffin Bay, David Strait, the coast off Labrador, Newfoundland and Flemish Cap; in the eastern Atlantic, its distribution includes the Greenland coast, Reykjanes Ridge, Iceland, the Faroe Islands, Norwegian coast and Svalbard archipelago and the East part of the Barents Sea. Its presence decreases southward, being really scarce south of Norway, North Sea and the Irish Sea (Garabana, 2005).

The present record of *S. mentella* off the north-western Spanish coast represents its most southerly record in the north-eastern Atlantic and likewise it is the first record for the species from Galician waters (Bañón *et al.*, 2010). Du Buit and Quéro (1989) pointed out also the anomalous presence of one specimen of the cogeneric *S. norvegicus* (as *S. marinus*) in the northern part of the Bay of Biscay (ICES VIIIa). Although these authors did not give any explanation for this record, the capture of both *Sebastes* species seems to be casual and its occurrence could be due to vagrant specimens from further north. The genus *Sebastes* exhibit strong migrations between areas in the North Atlantic, related to feeding and reproduction, being more extensive in *S. mentella* because of its

pelagic behaviour and wide distribution (Garabana, 2005). Taking into account the area and depth where the specimen was captured, migration could have been carried out from the Irminger Sea, mating area for *S. mentella* during August-November (Sorokin, 1961), following the East Atlantic Subarctic Intermediate Water Mass, whose formation area is Icelandic waters (Collin, 2004). However, no definitive conclusion should be done through just one record.

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